Claims

What is claimed is:

1. A phase compensation circuit, comprising:

a delay circuit receiving a composite input signal that exhibits a variable phase error, the delay circuit providing a plurality of selectable discrete delays; and

a control circuit coupled to the delay circuit, the control circuit receiving a control signal whose value corresponds to the phase error associated with the composite input signal, the control circuit selecting one of the plurality of selectable discrete delays responsive to the control signal, wherein the selected delay is utilized to delay the composite input signal to provide a phase compensated composite output signal.

2. The circuit of claim 1, further including:

an output buffer, the output buffer receiving and amplifying the delayed composite input signal.

3. The circuit of claim 1, wherein at least one of the plurality of selectable discrete delays also amplifies the composite input signal as a function of the control signal.

4. The circuit of claim 1, wherein the composite input signal is a frequency modulation (FM) composite input signal.

5. The circuit of claim 4, wherein the composite input signal is provided by a detector of an FM receiver and the phase error associated with the composite input signal is introduced when the bandwidth of an intermediate frequency (IF) filter of the FM receiver is dynamically varied.

6. The circuit of claim 1, wherein the composite input signal is provided by a detector of an FM receiver whose input is coupled to an adaptive

reception system (ARS) that receives a plurality of transmitted signals each through one of a plurality of antennas and provides a composite received signal to the input of the FM receiver, and wherein the phase compensated composite output signal is provided to the ARS to phase align the plurality of transmitted signals received through the plurality of antennas.

7. A phase compensation circuit, comprising:

a delay circuit receiving a composite input signal that exhibits a variable phase error, the delay circuit providing a plurality of selectable discrete delays;

a control circuit coupled to the delay circuit, the control circuit receiving a control signal whose value corresponds to the phase error associated with the composite input signal, the control circuit selecting one of the plurality of selectable discrete delays responsive to the control signal, wherein the selected delay is utilized to delay the composite input signal; and

an output buffer, the output buffer receiving and amplifying the delayed composite input signal to provide a phase compensated composite output signal.

8. The circuit of claim 7, wherein at least one of the plurality of selectable discrete delays also amplifies the composite input signal as a function of the control signal.

9. The circuit of claim 7, wherein the composite input signal is a frequency modulation (FM) composite input signal.

10. The circuit of claim 9, wherein the composite input signal is provided by a detector of an FM receiver and the phase error associated with the composite input signal is introduced when the bandwidth of an intermediate frequency (IF) filter of the FM receiver is dynamically varied.

11. The circuit of claim 7, wherein the composite input signal is provided by a detector of an FM receiver whose input is coupled to an adaptive reception system (ARS) that receives a plurality of transmitted signals each through one of a plurality of antennas and provides a composite received signal to the input of the FM receiver, and wherein the phase compensated composite output signal is provided to the ARS to phase align the plurality of transmitted signals received through the plurality of antennas.

12. A method for providing phase compensation of a signal, comprising the steps of:

providing a delay circuit for receiving a composite input signal that exhibits a variable phase error, the delay circuit providing a plurality of selectable discrete delays; and

providing a control circuit coupled to the delay circuit, the control circuit receiving a control signal whose value corresponds to the phase error associated with the composite input signal, the control circuit selecting one of the plurality of selectable discrete delays responsive to the control signal, wherein the selected delay is utilized to delay the composite input signal to provide a phase compensated composite output signal.

13. The method of claim 12, further including the step of:

providing an output buffer, the output buffer receiving and amplifying the delayed composite input signal.

14. The method of claim 12, wherein at least one of the plurality of selectable discrete delays also amplifies the composite input signal as a function of the control signal.

15. The method of claim 12, wherein the composite input signal

is a frequency modulation (FM) composite input signal.

16. The method of claim 15, wherein the composite input signal is provided by a detector of an FM receiver and the phase error associated with the composite input signal is introduced when the bandwidth of an intermediate frequency (IF) filter of the FM receiver is dynamically varied.

17. The method of claim 12, wherein the composite input signal is provided by a detector of an FM receiver whose input is coupled to an adaptive reception system (ARS) that receives a plurality of transmitted signals each through one of a plurality of antennas and provides a composite received signal to the input of the FM receiver, and wherein the phase compensated composite output signal is provided to the ARS to phase align the plurality of transmitted signals received through the plurality of antennas.

18. A frequency modulation (FM) reception system, comprising:

a phase compensation circuit, including:

a delay circuit receiving an FM composite input signal that exhibits a variable phase error, the delay circuit providing a plurality of selectable discrete delays; and

a control circuit coupled to the delay circuit, the control circuit receiving a control signal whose value corresponds to the phase error associated with the composite input signal, the control circuit selecting one of the plurality of selectable discrete delays responsive to the control signal, wherein the selected delay is utilized to delay the composite input signal to provide a phase compensated composite output signal;

an FM receiver coupled to and providing the composite input signal to the delay circuit of the phase compensation circuit; and

an adaptive reception system (ARS) that receives a plurality of transmitted signals each through one of a plurality of antennas and provides a

composite received signal to an input of the FM receiver, and wherein the phase compensated composite output signal is provided to the ARS to phase align the plurality of transmitted signals received through the plurality of antennas.

19. The system of claim 18, further including:

an output buffer, the output buffer receiving and amplifying the delayed composite input signal.

20. The system of claim 18, wherein at least one of the plurality of selectable discrete delays also amplifies the composite input signal as a function of the control signal.

21. The system of claim 18, wherein the composite input signal is provided by a detector of an FM receiver and the phase error associated with the composite input signal is introduced when the bandwidth of an intermediate frequency (IF) filter of the FM receiver is dynamically varied.